This listing of claims will replace all prior versions and listings of claims in the application:

## LISTING OF CLAIMS

1. (Currently amended) A method for the liquefaction of a hydrocarbon-rich flow, whereby the liquefaction of the hydrocarbon-rich flow is effected against a refrigerant circuit cascade consisting of three separate and closed refrigeration circuits, whereby the first of the three refrigeration circuits serves to provide preliminary cooling of the hydrocarbon rich flow, the second refrigeration circuit serves to provide the liquefaction of the preliminary cooled hydrocarbon rich flow, and the third refrigeration circuit serves to provide subcooling of the liquefied hydrocarbon-rich flow, and whereby each refrigeration circuit comprises at least one single-stage or multi-stage compressor, wherein at least one part flow of the refrigerant of the second refrigeration circuit is drawn off a main flow ~~to provide additional preliminary cooling of the hydrocarbon-rich flow~~ after passing through a heat exchanger ~~providing preliminary cooling and prior to providing liquefaction~~, and is then returned to the main flow of the second refrigerant circuit.

2. (Previously presented) The method as claimed in claim 1, wherein the part flow of the refrigerant of the second refrigeration circuit used for the pre-cooling of the hydrocarbon-rich flow is evaporated at a pressure which is higher than an evaporation pressure of the remaining part flow of the refrigerant of the second refrigeration circuit, and is conducted to the compressor of the second cooling circuit at an intermediate pressure level.

3. (Previously presented) The method as claimed in claim 1, wherein separation of unwanted components takes place before the liquefaction of the hydrocarbon-rich flow.

4. (Previously presented) The method as claimed in claim 3, wherein at least one part flow of the second refrigeration circuit is used for the provision of cooling in a separation unit.

5. (Previously presented) The method as claimed in claim 1, wherein a volume and/or

evaporation pressure of two part flows of the second refrigeration circuit are changeable.

6. (Previously presented) The method as claimed in claim 1, wherein the hydrocarbon rich flow is a natural gas flow.

7. (Canceled)

8. (Withdrawn) A method as claimed in claim 1 wherein the first refrigeration circuit comprises carbon dioxide.

9. (Withdrawn) A method as claimed in claim 1 wherein all the refrigeration circuits comprise mixed refrigerants.

10. (Withdrawn) A method of liquefying a hydrocarbon-rich gas, wherein the gas flows through a cascade of three refrigeration stages, each stage comprising a refrigerant circuit and a compressor, wherein at least part of the flow of refrigerant from the second circuit is used for the preliminary cooling of the hydrocarbon rich gas in the first refrigeration stage.

11. (Withdrawn) A method of liquefaction comprising a plurality of cooling circuits arranged in a cascade formation, each circuit comprising a compressor, wherein each compressor has a substantially equal share of the total load.

12. (Withdrawn) A method as claimed in claim 11 wherein the cascade comprises at least first and second cooling circuits, the second cooling circuit being used at least partially for pre-cooling the substance to be liquefied.

13. (Withdrawn) A method as claimed in claim 11 wherein the method is a method of liquefaction of a hydrocarbon rich flow.

14. (Withdrawn) A method as claimed in claim 13 wherein the first cooling circuit

comprises carbon dioxide.

15. (Withdrawn) A substantially load balanced mixed refrigerant cascade process comprising a carbon dioxide pre-cooling circuit.

16. (Withdrawn) A substantially load balanced mixed refrigerant cascade process as claimed in claim 15 wherein the carbon dioxide is cooled after condensation to a temperature of 20°C or less.

17. (Withdrawn) A substantially load balanced process as claimed in claim 16 wherein the carbon dioxide is cooled to a temperature of 15°C or less.

18. (Withdrawn) A substantially load balanced process as claimed in claim 16 wherein cold cooling water is used to cool the carbon dioxide.

19. (Withdrawn) A substantially load balanced process as claimed in claim 18 wherein the cold cooling water is sea water.

20. (Withdrawn) A substantially load balanced process as claimed in claim 15, wherein the carbon dioxide pre-cooling circuit includes a sub-cooling heat exchanger installed after the condenser.

21. (Withdrawn) A substantially load balanced process as claimed in claim 15, wherein the carbon dioxide cooling circuit comprises three pressure levels.

22. (Withdrawn) A substantially load balanced process as claimed in claim 15, wherein the carbon dioxide is not subcooled in the pre-cooling circuit.

23. (Withdrawn) A substantially load balanced process as claimed in claim 15, wherein a high pressure casing is used with the carbon dioxide compressor.

24. (Withdrawn) A substantially load balanced process as claimed in claim 23 wherein the compressor is split into two casings and a barrel type casing used for the high pressure stage.

25. (Withdrawn) An LNG liquefaction process comprising three cascade cycles each driven by a compressor, wherein the compressors are substantially equally loaded and one of the cascade cycles is a carbon dioxide cycle.

26. (Withdrawn) A method for the liquefaction of a hydrocarbon-rich flow, whereby the liquefaction of the hydrocarbon-rich flow is effected against a refrigerant circuit cascade consisting of three mixed refrigeration circuits, whereby the first of the three refrigeration circuits serves to provide preliminary cooling, the second refrigeration circuit serves to provide the actual liquefaction, and the third refrigeration circuit serves the sub-cooling of the liquefied hydrocarbon-rich flow, and whereby each refrigeration circuit comprises at least one single-stage or multi-stage compressor, characterized in that at least one part flow of the refrigerant of the second refrigeration circuit is used for the preliminary cooling of the hydrocarbon-rich flow.